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Remarks

In view of the following discussion, the Applicant submits that none of the claims now pending in the application are non-enabling, anticipated, or obvious under the respective provisions of 35 U.S.C. § 112, §102, and §103. Thus, the Applicant believes that all of these claims are now in allowable form.

It is to be understood that the Applicant, does not acquiesce to the Examiner's characterizations of the art of record or to Applicant's subject matter recited in the pending claims. Further, Applicant is not acquiescing to the Examiner's statements as to the applicability of the prior art of record to the pending claims by filing this Response.

Rejections

Rejections of claims under 35 U.S.C. § 102

Claims 1-9 are rejected under 35 U.S. C. §102(e) as being anticipated by U.S. Patent Application Publication Number 2002/0031134 published March 14, 2002 to Poletto et al. (hereinafter Poletto). Specifically, the Examiner alleges that Poletto discloses a method for thwarting coordinated SYN denial of service attacks against a server in a network. The Examiner offers that Poletto discloses controlling a network switch to divert a predetermined fraction of SYN packets destined for server, to a web guard processor, per paragraphs 0004-0008, establishing the first and second TCP connections between the web guard processor, client and server (per paragraphs 0060-0062), monitoring the number of timed out connections between the web guard processor and one or more clients (per paragraph 0062-0063), and if the number of timed-out connections between the web guard processor and said one or more clients exceeds a first

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predetermined threshold, controlling said switch to divert all SYN packets destined to said web guard processor (per paragraph 0063-0072). The Examiner also uses the above-identified portions of Poletto to allege anticipation of elements of additional claims 2, 5, 6, 7, 8, and 9. In response the rejection is respectfully traversed.

Applicant offers that while Poletto is in the technical field of the subject invention, there are deficiencies in the exact teachings of Poletto. "Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim" (Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 730 F.2d 1452, 221 USPQ 481, 485 (Fed. Cir. 1984) (citing Connell v. Sears, Roebuck & Co., 722 F.2d 1542, 220 USPQ 193 (Fed. Cir. 1983)) (emphasis added). Poletto fails to disclose each and every element of the claimed invention, as arranged in the claim.

The Examiner has expanded upon the claim language to force the teachings of the prior art to fit the claimed element, and thereby support the conclusion of anticipation. Such action is not permissible. The prior art must be such that a person of ordinary skill in the field of the invention would consider there to be no difference between the claimed invention and the reference disclosure. Scripps Clinic & Research Foundation v. Genentech, Inc., 927 F.2d 1565, 18 USPQ 2d 1001, 1010 (Fed. Cir. 1991). In other words, the prior art reference must put the claimed invention in the hand of one skilled in the art. In re Donohue, 766 F.2d 531, 533, 226 USPQ 619, 621 (Fed. Cir. 1985).

Specifically, Poletto does not teach or disclose controlling network switch to divert a predetermined fraction of SYN packets in accordance with the subject invention. The Examiner cites Paragraphs 0004-0008 to support this claimed aspect. However, Applicant respectfully submits that Paragraphs 0004-0008 encompass the Summary of the invention section of Poletto and do not go into the level of detail that is recited in the claimed feature. Specifically, Paragraph 0004 provides for, "the computing device (of Poletto) includes a monitoring

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process that monitors network traffic through the gateway and the communication process that can communicate statistics collected in the gateway from the monitoring process with a control center..." The other paragraphs have explanations that are similar in scope or are not particularly related to the claimed aspect. That is, at no point in Paragraphs 0004-0008 is there an explicit recitation of diverting a predetermined fraction of SYN packets. All that is offered in the summary of Poletto is that there is a monitoring process. However, there are no details as to what this monitoring process monitors and how the monitoring is accomplished. For example, how many packets are monitored? Are such packets a fraction of the total amount of SYN packets destined to a server? Some further description in the reference is necessary to provide sufficient details to truly show anticipation of the subject claimed feature.

The Examiner then relies upon the disclosure of Paragraphs 0060-0072 to support his findings of the additional claimed features of the subject invention. However, upon reviewing same, Applicant respectfully submits that while these paragraphs do go into greater detail regarding the transfer of SYN packets, SYN_ACK packets and ACK packets during the TCP handshake connection initialization between a client and a server in the network, it is respectfully submitted that the teachings are still not anticipatory.

Specifically, Applicant submits that Paragraph 0062 is paramount to the overall understanding of the invention of Poletto and the details of how it goes about preventing SYN attacks. Specifically, the Gateway 26 of Poletto acts as an intermediary for all SYN packets that travel from a client to a server. That is, "the Gateway forwards a resulting SYN ACK packet from a server to a client and immediately sends an ACK packet to the server closing a 3-way handshake....if the ACK packet does not arrive from the client to the server 110, the gateway sends a reset message to the server to close the connection." (Paragraph 0062) Therefore, it is respectfully submitted that Poletto handles potential SYN attacks by having its gateway 26 act as an intermediary for every single SYN packet that is sent from a client to a server. That is, and is claimed, there is no network

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switch that diverts a predetermined fraction of SYN packets destined for a server to a web guard processor because, in fact, it is necessary for all such packets in Poletto to be processed in the manner disclosed by Poletto and as quoted herein by Applicant for Poletto to properly function. As such, it is respectfully submitted that there is no step of diverting a predetermined fraction of SYN packets and as such, there cannot be a subsequent step of diverting all SYN packets if the number of timed-out connections exceeds a threshold value because all SYN packets in Poletto are already being processed.

Applicant's reasoning is also supported by Paragraph 0072 wherein Poletto discusses the collection of statistical summary information of traffic over different periods of time and at different levels of detail since the Gateway may keep mean and standard deviation of values for a chosen set of parameters. Such statistical operations require the inclusion of all data points (or processed SYN packets) to arrive at the correct value according to the mathematical definitions of same. It is respectfully submitted that all occurrences of SYN packet transmission are acted upon the same way in the gateway. That is, there is no diverting of a predetermined fraction of SYN packets and a subsequent diversion of all SYN packets should the threshold be reached in Poletto as claimed by the Applicant.

The Examiner also offers the teachings of paragraphs 0048-0055 of Poletto as anticipatory teachings to independent claim 7 of the subject invention. However, it is respectfully submitted that the Examiner has not reviewed the entire reference so as to ascertain the complete teachings of same. Specifically, paragraphs 0048-0055 discuss a monitoring process that includes the gateway or data collectors keeping track of a metric for each of N different traffic buckets. Each of these buckets "are implemented as storage areas in the memory space of the data collector or gateway device" (Paragraph 0044 of Poletto). Therefore, it is respectfully submitted that for at least this reason, it is submitted that Poletto does not teach at least the claimed feature of "arranging a switch receiving said SYN packets destined to said server to forward said SYN packets to a TCP proxy

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arranged to operate without an associated cache." Specifically, since it is necessary to monitor activity and keep account of information in either the data collectors or the gateways by storing such information in memory space as buckets, said gateways or data collectors are operating with an associated cache; hence, do not anticipate claim 7. Accordingly, it is respectfully submitted that for at least the reason cited above, independent claims 1 and 7 are not anticipated by the teachings of Poletto.

As such, the Applicants submit that claims 1 and 7 are not anticipated and fully satisfy the requirements under 35 U.S.C. § 102 and are patentable thereunder. Furthermore, claims 2-6 and 8 and 9 depend, either directly or indirectly, from independent claims 1 and 7 and recite additional features thereof. As such, and for at least the same reasons discussed above, the Applicants submit that these dependent claims also fully satisfy the requirements under 35 U.S.C. § 102 and are patentable thereunder. Therefore, the Applicants respectfully request that the rejection be withdrawn.

CONCLUSION

Thus, the Applicants submit that claims 1-9 are in condition for allowance. Furthermore, the specification and Abstract has been amended as requested by the Examiner. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application,

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it is requested that the Examiner telephone Mr. Joseph Pagnotta or Mr. Eamon J. Wall at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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Joseph Pagnotta, Agent
Reg. No. 39,322
(732) 530-9404

Moser, Patterson & Sheridan, LLP
595 Shrewsbury Avenue
Suite 100
Shrewsbury, New Jersey 07702

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9/2/04
Date


Carol Wilson